

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-3. (canceled).

Claim 4. (currently amended) ~~The modem apparatus according to claim 3,~~
~~wherein~~ A modem apparatus comprising:

a demodulator configured to demodulate a received symbol subjected to quadrature amplitude modulation;

a memory configured to store the demodulated symbol; and

a controller configured to detect coordinates of the demodulated symbols on a signal space diagram, to calculate a cross product of two vectors from the origin of the signal space diagram to the detected coordinates of two consecutive demodulated symbols, to obtain a polarity array of the calculation result over a plurality of consecutive demodulated symbols, and to determine a rotation direction of the demodulated symbol, based on the obtained polarity array,

~~said identifying means identifies an~~ the controller being further configured to determine that the received symbol is a Sh signal when positive polarity appears at least two times consecutively in the polarity array after a communication in compliance with Recommendation V.34 is started begins through the a control channel.

Claim 5. (currently amended) An image communication apparatus equipped with a modem apparatus according to claim 4 comprising:

~~the modem apparatus according to claim 1;~~

~~reading means for reading image data; and~~

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~~recording means for recording image data received by said modem apparatus.~~

Claims 6-8. (canceled).

Claim 9. (currently amended) ~~The communication control method according to claim 8, wherein~~ A communication control method comprising:

demodulating a received symbol subjected to quadrature amplitude modulation;

detecting coordinates of the demodulated symbol on a signal space diagram;

calculating a cross product of two vectors from the origin of the signal space diagram to the detected coordinates of two consecutive demodulated symbols;

obtaining a polarity array of the calculation result over a plurality of consecutive demodulated symbols;

determining a rotation direction of the demodulated symbol, based on the obtained polarity array; and

determining that the received signal is a an Sh signal is identified when positive polarity appears at least two times consecutively in the polarity array when a communication in compliance with Recommendation V.34 is started begins through the a control channel.

Claim 10. (new) A modem apparatus operating according to Recommendation V.34 that receives one of a PPh signal and a Sh signal at the beginning of a communication on a control channel, the modem apparatus comprising:

a demodulator configured to demodulate a received symbol, the received symbol being modulated in quadrature amplitude modulation; and

a controller configured to detect a first rotation direction from a first demodulated symbol on a signal space diagram to a second demodulated symbol on the signal

space diagram, and to detect a second rotation direction from the second demodulated symbol on the signal space diagram to a third demodulated symbol on the signal space diagram, the first demodulated symbol, the second demodulated symbol, and the third demodulated symbol being consecutively demodulated,

the controller being configured to determine receipt of the Sh signal when the first rotation direction and the second rotation direction are detected to be a same direction on the signal space diagram.

Claim 11. (new) The modem apparatus according to claim 10, wherein the same direction comprises a counterclockwise direction.

Claim 12. (new) An image communication apparatus equipped with a modem apparatus according to claim 10.

Claim 13. (new) A communication control method for a communication in accordance with Recommendation V.34 that receives one of a PPh signal and a Sh signal at the beginning of a communication on a control channel, the communication control method comprising:

demodulating a received symbol, the received symbol being modulated in quadrature amplitude modulation;

detecting a first rotation direction from a first demodulated symbol on a signal space diagram to a second demodulated symbol on the signal space diagram;

detecting a second rotation direction from the second demodulated symbol on the signal space diagram to a third demodulated symbol on the signal space diagram, the first demodulated symbol, the second demodulated symbol, and the third demodulated symbol being consecutively demodulated; and

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determining that the received signal is a Sh signal when the first rotation direction and the second rotation direction are detected to be a same direction on the signal space diagram.